



PATENT
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(P-TB 3997)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Sem and Hansen

Serial No 09/747,174

Filed: December 22, 2000

Confirmation No: 5507

Group Art Unit: 1631

Examiner: M. Borin

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For: CLASSIFICATION OF POLYPEPTIDES
BY LIGAND GEOMETRY AND RELATED
METHODS

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RESPONSE TO COMMUNICATION

Responsive to the Communication mailed September 16, 2003, consideration of the following remarks is respectfully requested.

In the Communication, it is indicated that the response filed July 8, 2003, is not considered fully responsive to the previous Office Action because support in the specification is not identified. In an exchange of telephone messages between the Examiner and Applicants' representative, the Examiner indicated he would like the support to be pointed out more explicitly. Although support in the specification was provided in the previous response, Applicants nevertheless set forth support for the amendment in more detail below.

The amendment to step (b) of claim 19 merely describes the result of step (b), the identification of two bound conformations, and was made to provide antecedent basis for terms in a subsequent step.

Claim 19 is directed to identifying polypeptide pharmacofamilies. As taught in the specification, a "pharmacofamily" refers to polypeptides that can be classified together in a population because they individually bind a ligand such that the ligand is bound in substantially the same conformation (page 15, lines 17-27). Since a pharmacofamily has more than one member, claim 19 was amended to incorporate step (c) to reflect the identification of at least two polypeptides having binding activity for each of the bound conformations and to reflect the result recited in the concluding phrase of "identifying at least two polypeptide pharmacofamilies." Support for the amendment to incorporate step (c) can be found on page 15, lines 17-21, which indicates that a pharmacofamily refers to polypeptides that can be classified together. Support for the incorporation of step (c) is further provided on page 44, line 13, to page 46, line 29, and in original claim 19, which is directed to and recites identifying pharmacofamilies exhibiting binding specificity for two or more substantially different bound conformations of the ligand.

Support for the amendment of claim 19 to incorporate step (d) can be found, for example, in Figure 3 and the description of Figure 3 on page 5, lines 1-10; in Part D of Tables 3-10 (Table 3D, pages 106-115; Table 4D, pages 119-122; Table 5D, pages 127-137; Table 6D, pages 142-144; Table 7D, pages 149-156; Table 8D, pages 161-167; Table 9D, pages 172-175; Table 10D, pages 179-181), which correlate with Figures 3A-3H, respectively, and the description of Part D of Tables 3-10 on page 94, lines 18-30, as well as page 12, lines 3-7. The specification teaches that a "bound conformation" refers to the location of atoms of a ligand relative to each other in three dimensional space, where the ligand is bound to a polypeptide (page 12, lines 3-7). Figure 3 shows the determination of atoms of polypeptides of 8 exemplary pharmacofamilies having a conserved location in three-dimensional space relative to the ligand and having binding specificity for the bound conformations. Figure 3 also shows that the conserved atoms of the polypeptides are hydrogen bond donors or hydrogen bond acceptors to the bound ligand and are conserved between polypeptides that bind the respective substantially different bound conformations (see also description of Figure 3 on page 5, lines 1-10).

Applicants respectfully submit that the amendment in the response filed July 8, 2003, is fully supported in the specification and that the amendment does not introduce new matter. Accordingly, Applicants respectfully request that the amendment previously filed July 8, 2003, be entered.

Applicants also wish to bring to the Examiner's attention co-pending application serial No. 10/032,395.

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The Examiner is invited to call the undersigned agent if there are any questions.

Respectfully submitted,

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